

Work Order ID 143620***143620***

Page 1

Item ID: D4406-1

Accept

N900040100Setup Start ***NS1***

Revision ID:

Item Name: Plate

Stop ***NS2***

Start Date: 3/21/2016 Start Qty: 10.00

10

Cust Item ID:

Required Date: 3/31/2016 Req'd Qty: 10.00

10

Customer:

Reference:

Approvals:

Process Plan: SADate: 20160317 Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

D4406

D

0.00

100

Waterjet

0.05

FLOW CNC Waterjet

Memo

1-Cut as per dwg D4406-1

prog rev: Pdwg rev: P

2-Deburr if required

8 16-3-17

110

QC2- Inspect parts off machine FAI/FAIB

0.00

110

QC

Memo

0.00

Quality Control

8 16-3-17

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

March 17, 2016 10:21:03 AM

143620

Page 2

Accept

N900040100

Setup Start *NS1*

Stop *NS2*

Item Name: Plate

Start Date: 3/21/2016 **Start Qty:** 10.00

10

Cust Item ID:

Required Date: 3/31/2016 **Req'd Qty:** 10.00

10

Customer:

Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
 QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Run Start *NR1*

Stop *NR2*

[illegible]

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

Work Order ID 143620

March 17, 2016 10:21:03 AM

143620

Page 3

Item ID: D4406-1

Accept

N900040100Setup Start ***NS1***

Revision ID:

Item Name: Plate

Stop ***NS2***

Start Date: 3/21/2016 Start Qty: 10.00

10

Cust Item ID:

Required Date: 3/31/2016 Req'd Qty: 10.00

10

Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start ***NR1***

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

150

Identify as per dwg & Stock Location: WA002

0.00

150

Packaging

Memo

0.00

Packaging

LOCATION: WA002

8
16-04-01
JBL

160

QC21- Final Inspection - Work Order Release

0.00

160

QC

Memo

0.02

Quality Control

MLW
APR 01 2016

MLW
APR 01 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

Picklist Print

March 17, 2016 10:21:07 AM

Page 1
1

Work Order ID: 143620

143620

Parent Item: D4406-1

D4406-1

Parent Item Name: Plate

Start Date: 3/21/2016

Required Date: 3/31/2016

Start Qty: 10.00

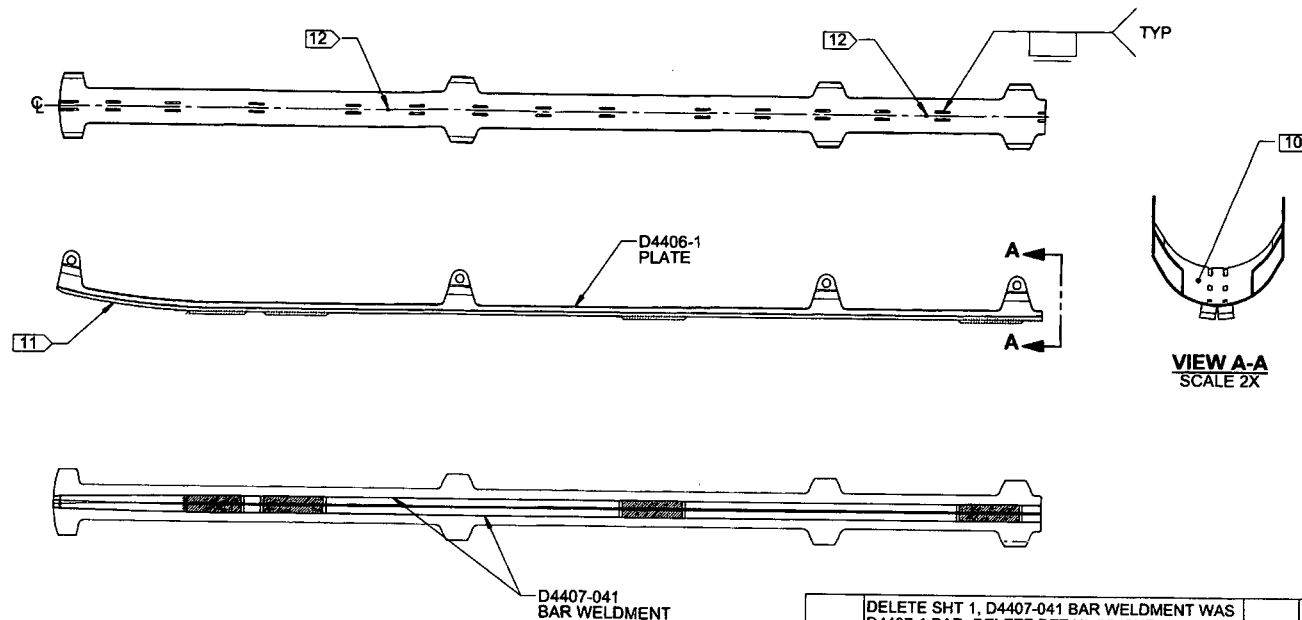
Required Qty: 10.00

Comments: IPP REV:A 14.04.09 DWG REV.C DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304S18GA		Purchased	No				sf *	294.4960		36.84211			
M304S18GA									**			<u>16.3.17</u>	
304/316 .050 Sheet													

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
MAT020	293.896	
M132797	0.29	
M133328	173.606	
M133587	120	
MAT20	0.6	
M131700	0.6	

ITEM	QTY	P/N	DESCRIPTION
	X	D4406-041	FWD WEARPLATE ASSY
1	1	D4406-1	PLATE
2	2	D4407-041	BAR WELDMENT



D4406-041 FWD WEARPLATE ASSY

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
- 7) WEIGHT: 8.48 lbs
- 8) WELDING: PER QSI 004
- 9) N/A
- 10) COAT ENTIRE TOP (CONCAVE) SURFACE WITH TEXTURED COATING, 0.020-0.040 THICK, PER DART QSI 005 4.9
- 11) FORM TO MATCH PROFILE OF D4406-1 AT TIME OF WELDING.
- 12) TRANSFER $\phi 0.188$ HOLES FROM D4406-1 TO D4407-041

20160317

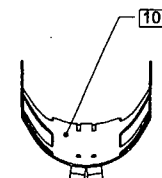
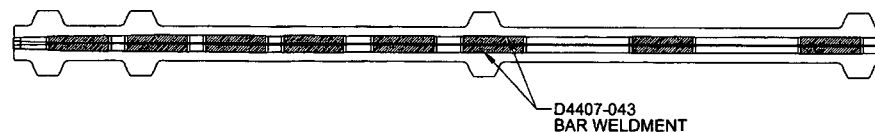
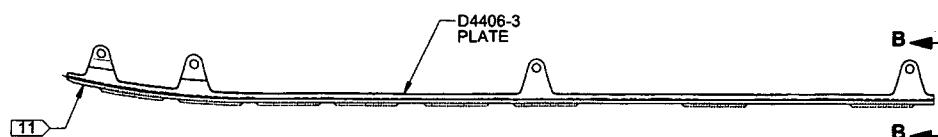
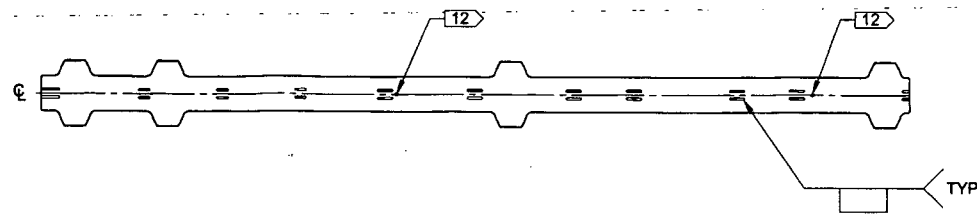
SH 143620

RELEASED
2016-02-08
EEN 16-518

D	DELETE SHT 1, D4407-041 BAR WELDMENT WAS D4407-1 BAR, DELETE DETAIL 'K' (SHT 1). D4407-043 BAR WELDMENT WAS D4407-3 BAR, DELETE DETAIL 'L' (SHT 2), REMOVE NOTE 9 (SHT 1&2), NOTE 10; TEXTURED COATING WAS ROCKGUARD (SH 1&2), NOTE 12; D4407-041 WAS D4407-1 (SHT 1), D4407-043 WAS D4407-3 (SHT 2), REMOVE NOTE 13 (SHT 1&2)	DB	15.10.14
C	SHEETS 4 AND 5 HOLE SLOTS RE-PITCHED, SHT 5 FWD SLOT SIZES WERE 0.88 (REF NCR12-2031)	AJS	13.03.11
B	REVISE BILL OF MATERIAL; ADD NOTE 13/14 & REVISE NOTE 9 SHT 2&3; MODIFY DETAIL E & F (ZN B3-6, C2-6); ADD DETAIL G (ZN C7-6); REVISE D4406-3F TAB LOCATIONS (ZN B5-5)	RF	12.02.16
A	NEW ISSUE	RF	11.08.15
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	DB		
CHECKED	ML	DRAWING NO.	REV. D
MFG. APPR.	DD	D4406	SHEET 1 OF 5
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	WEARPLATE ASSY	NTS
DATE	15.10.14	COPYRIGHT © 2011 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

ITEM	QTY -043	P/N	DESCRIPTION
	X	D4406-043	WEARPLATE ASSY
1	1	D4406-3	PLATE
2	2	D4407-043	BAR WELDMENT

△



VIEW B-B
SCALE 2X

D4406-043 AFT WEARPLATE ASSY

NOTES:

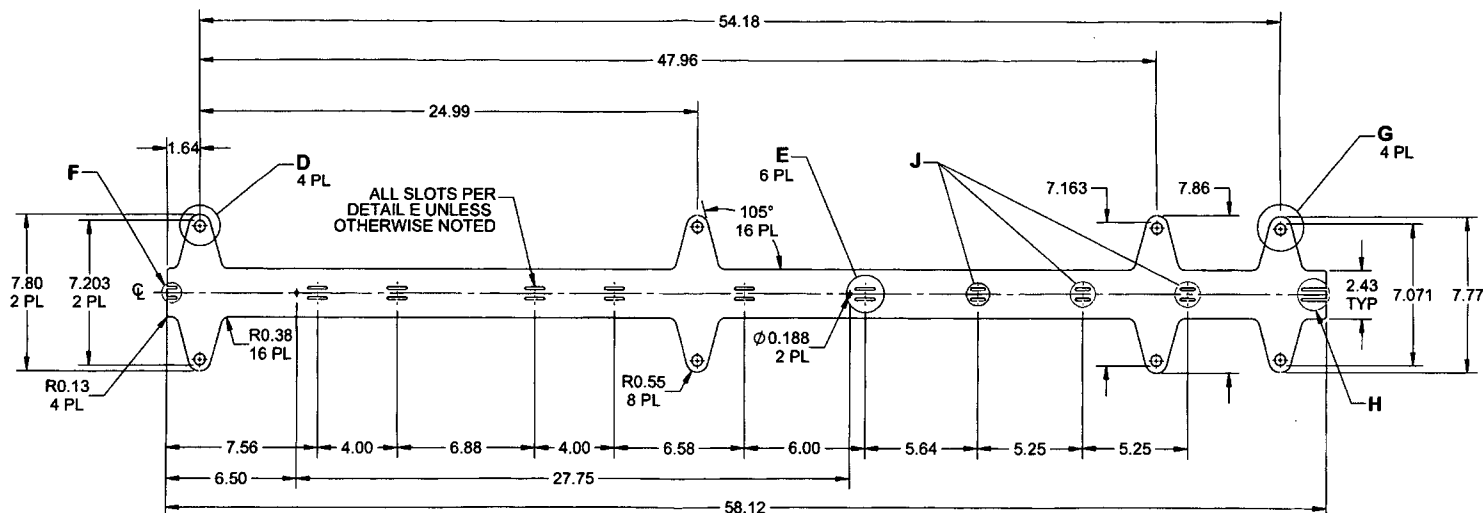
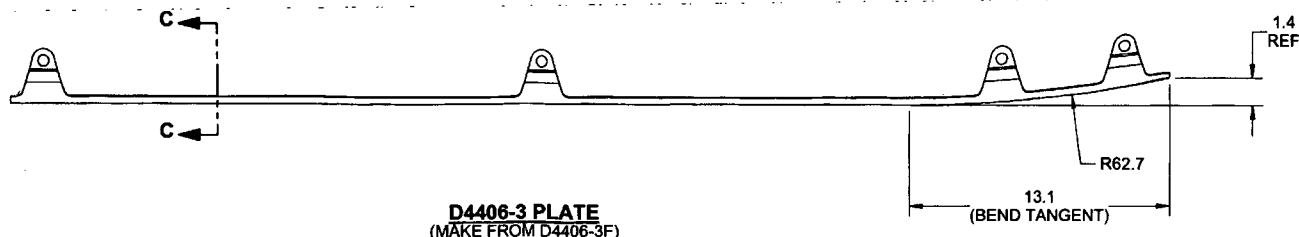
- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
- 7) WEIGHT: 8.70 lbs
- 8) WELDING: PER QSI 004
- 9) N/A
- 10) COAT ENTIRE TOP (CONCAVE) SURFACE WITH TEXTURED COATING, 0.020-0.040 THICK, PER DART QSI 005 4.9
- 11) FORM TO MATCH PROFILE OF D4406-3 AT TIME OF WELDING.
- 12) TRANSFER $\varnothing 0.188$ HOLES FROM D4406-3 TO D4407-043

RELEASED
2016-02-08

APPROVED

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	DB		
CHECKED	ML	DRAWING NO.	REV. D
MFG. APPR.	DD	D4406	SHEET 2 OF 5
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	WEARPLATE ASSY	NTS
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8 7 6 5 4 3 2 1



D4406-3F FLAT PATTERN

NOTES:

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL SHEET, 0.050 THICK (18 GAUGE)
PER AMS 5513 OR 5524
OR ASTM A240 OR ASME SA240
REF. DART SPEC. M304S18GA
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 2.5 lbs

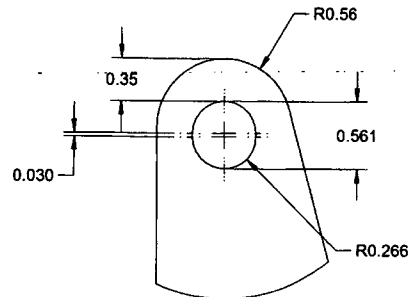
RELEASED
2016-02-08

APPROVED

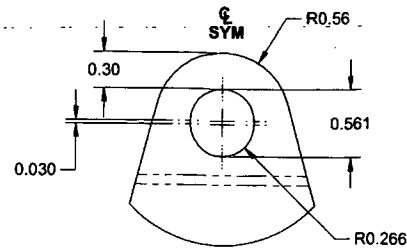
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DRAWN	DB		
CHECKED	ML	DRAWING NO.	REV. D
MFG. APPR.	DD	D4406	SHEET 4 OF 5
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	WEARPLATE ASSY	NTS
DATE	15.10.14	COPYRIGHT © 2011 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	

8 7 6 5 4 3 2 1

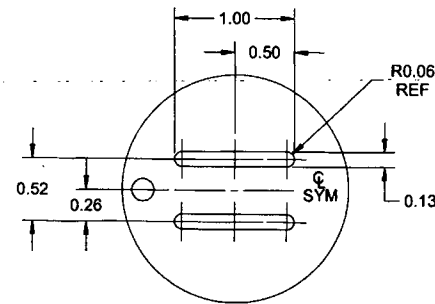
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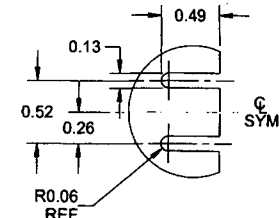
DETAIL G
SCALE 6X



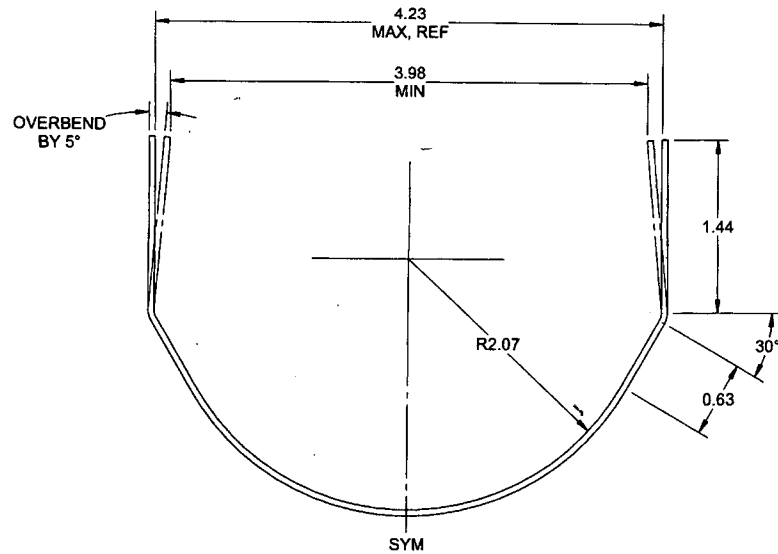
DETAIL D
SCALE 6X



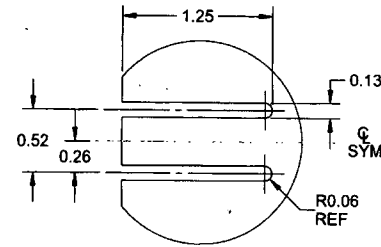
DETAIL E
SCALE 6X



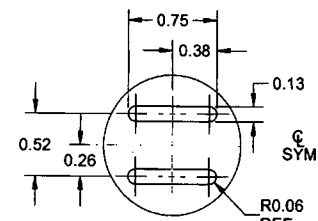
DETAIL F
SCALE 6X



DETAIL C
SCALE 6X



DETAIL H
SCALE 6X



DETAIL J
SCALE 6X

OVERBEND
BY 5°

RELEASED
2016-02-08

APPROVED

DESIGN	RF	DART AEROSPACE LTD	
DRAWN	DB	HAWKESBURY, ONTARIO, CANADA	
CHECKED	ML	DRAWING NO.	REV. D
MFG. APPR.	DD	D4406	SHEET 5 OF 5
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	WEARPLATE ASSY	NTS
DATE	15.10.14	COPYRIGHT © 2011 BY DART AEROSPACE LTD	
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8 7 6 5 4 3 2 1

DART AEROSPACE LTD		Work Order:	143620
Description: Plate		Part Number:	D4406-1
Inspection Dwg: D4406	Rev: <i>2</i> <i>0.561-0.010</i>	Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.561	+/-0.010	0.563	✓			
0.30	+/-0.030	0.297	✓			
1.00	+/-0.030	1.003	✓			
0.13	+/-0.030	0.127	✓			
1.77	+/-0.030	1.77	✓			
7.203	+/-0.010	7.2	✓			
7.80	+/-0.030	7.801	✓			
8.00	+/-0.030	8	✓			
6.94	+/-0.030	6.94	✓			
4.00	+/-0.030	4	✓			
36.00	+/-0.030	36	✓			
66.06	+/-0.030	66.06	✓			
2.43	+/-0.030	2.43	✓			
7.067	+/-0.010	7.067	✓			
7.77	+/-0.030	7.77	✓			
12.745	+/-0.010	12.745	✓			
37.308	+/-0.010	37.308	✓			
63.734	+/-0.010	63.734	✓			
0.050	+/-0.010	0.056	✓			
0.188	+0.005/-0.001	0.192	✓			
6.38	+/-0.030	6.38	✓			
4.25	+/-0.030	4.25	✓			
6.45	+/-0.030	6.45	✓			
12.13	+/-0.030	12.13	✓			
4.00	+/-0.030	4	✓			

Measured by:	<i>GA</i>	Audited by:	<i>DAS</i>	Preliminary Approval:	
Date:	<i>16.3.17</i>	Date:	<i>9.89</i>	Date:	

Rev	Date	Change	Revised by	Approved
A	11.10.13	New Issue	KJ	
B	12.03.08	Dimensions revised per Dwg Rev B	KJ	
C	13.05.27	Dimensions revised per Dwg Rev C	KJ	